

CLAIMS:

1. An exercise apparatus comprising:
a framework supporting two independent exercise resistance units and mounting the two exercise resistance units for movement toward and away from each other to respective use positions wherein the units are operable by a user in conjunction with each other to perform exercises, and to respective storage positions;

wherein, each of the exercise resistance units is movably mounted on a rail of said framework, said rail having a segment which is movable between an extended use position allowing a respective exercise resistance unit to move therealong, and a storage position reducing a footprint of the framework.

2. An exercise apparatus according to claim 1, wherein said rail segment is pivotally mounted for movement between said extended use position and said storage position.

3. An exercise apparatus according to claim 1, wherein said rail segment is removable from the remaining framework for placement in said storage position.

4. An exercise apparatus according to claim 1, said framework comprising upper and lower rails, the exercise resistance units having upper and lower rollers for riding along said rails, wherein a segment of each of said rails is movable from a said extended use position to a said storage position.

5. An exercise apparatus according to claim 4, wherein a said rail segment pivots to a generally vertical storage position.

6. An exercise apparatus according to claim 4, wherein a said rail segment is removable from the remaining framework for placement in said storage position.

7. An exercise apparatus according to claim 1, wherein said framework mounts the exercise resistance units for horizontal movement in intersecting planes.

8. An exercise apparatus comprising:
a framework supporting two independent exercise resistance units and mounting the two exercise resistance units for movement toward and away from each other to respective use positions wherein the units are operable by a user in conjunction with each other to perform exercises, and to respective storage positions; and

a cover panel movably connected to said framework for movement between a closed position at least partially covering at least one of said exercise resistance units when said at least one exercise unit is in its storage position, and an open position exposing said at least one exercise resistance unit for use.

9. An exercise apparatus according to claim 8, further comprising a secondary panel movably mounted in overlying relationship with said cover panel.

10. An exercise apparatus according to claim 9, wherein said secondary panel is mounted for pivotal movement relative to said cover panel.

11. An exercise apparatus according to claim 8, wherein a pair of said cover panels are provided, each said cover panel being movable to a position substantially covering a respective one of said exercise resistance units positioned in its storage position.

12. An exercise apparatus according to claim 11, wherein said pair of cover panels are, in their closed positions, located adjacent to each other to define, with said framework, a covered storage area within which said exercise resistance units are located in their respective storage positions.

13. An exercise apparatus according to claim 12, wherein said framework mounts the two exercise resistance units for horizontal movement in intersecting planes, and said covered storage area is a corner storage area defined between said intersecting planes.

14. An exercise apparatus according to claim 13, wherein said framework defines a triangular structure comprising a corner column, two additional columns, a pair of upper stationary rails, a pair of lower stationary rails and a cross member connecting said two additional columns.

15. An exercise apparatus according to claim 14, wherein each of said two additional columns hingedly supports a respective one of said pair of cover panels for movement between the open and closed positions thereof.

16. An exercise apparatus according to claim 8, wherein each of the exercise resistance units is movably mounted on a rail of said framework, and in said open position said cover panel is positioned behind said rail.

17. An exercise apparatus according to claim 16, said rail having a segment which is movable between an extended use position allowing a respective exercise resistance unit to move therealong, and a storage position reducing a footprint of the framework, said storage

position being located within said covered storage area defined when said panels are placed in their closed positions.

18. An exercise apparatus according to claim 8, said apparatus further comprising a treadmill movably attached to said framework for movement between a storage position and a use position, wherein said storage position of the treadmill is located behind said cover panel when said cover panel is in said closed position.

19. An exercise apparatus according to claim 18, said apparatus further comprising a screen monitor attachable to said framework above said treadmill.

20. An exercise apparatus according to claim 8, said apparatus further comprising a foldable exercise bench movable between a storage position and a use position, wherein said storage position of the exercise bench is located behind said cover panel when said cover panel is in said closed position.

21. An exercise apparatus according to claim 20, wherein said exercise bench is movably attached to said framework for said movement between its storage position and use position.

22. An exercise apparatus according to claim 20, wherein said exercise bench is detachably connected to said framework for permitting said movement between its storage position and use position.

23. An exercise apparatus according to claim 12, said apparatus further comprising a preacher curl attachment movable between a storage position and a use position, wherein said storage position of the preacher curl attachment is located within said covered storage area defined when said panels are placed in their closed positions.

24. An exercise apparatus according to claim 12, said apparatus further comprising a leg extension/curl attachment movable between a storage position and a use position, wherein said storage position of the leg extension/curl attachment is located within said covered storage area defined when said panels are placed in their closed positions.

25. An exercise apparatus according to claim 12, said apparatus further comprising:

a treadmill attached to said framework for movement between a storage position and a use position, wherein said storage position of the treadmill is located within said covered storage area defined when said panels are placed in their closed positions;

a foldable exercise bench movable between a storage position and a use position, wherein said storage position of the exercise bench is located within said covered storage area defined when said panels are placed in their closed positions;

a preacher curl attachment movable between a storage position and a use position, wherein said storage position of the preacher curl attachment is located within said covered storage area defined when said panels are placed in their closed positions; and

a leg extension/curl attachment movable between a storage position and a use position, wherein said storage position of the leg extension/curl attachment is located within said covered storage area defined when said panels are placed in their closed positions.

26. An exercise apparatus according to claim 1, wherein each exercise resistance unit comprises a flexible line segment operably connected to a source of exercise resistance and having a respective end portion equipped with a connector adapted to be attached to a movable exercise member, said exercise resistance units supporting said line segments such that said respective end portions are maintained in respective vertically adjustable rest positions, each said line segment being extensible against a bias of a respective one of said sources of exercise resistance, independently of the other line segment, to allow the respective end portion to move away from its rest position, each said line segment being independently retractable, by said bias, to return the end portion to its rest position.

27. An exercise apparatus comprising:

an adjustable exercise resistance structure;

a pair of flexible line segments operably connected to said exercise resistance structure and having respective end portions equipped with a connector adapted to be attached to a movable exercise member, said structure mounting said end portions such that they may be used in conjunction with each other to perform exercises, said exercise resistance structure supporting said line segments such that said respective end portions are maintained in respective vertically adjustable rest positions, each said line segment being extensible against a bias of exercise resistance provided by said structure, independently of the other line segment, to allow the respective end portions to move away from their rest positions, each said line segment being independently retractable, by said bias, to return the end portion to its rest position;

a barbell; and

a pair of Smith guide columns and bearings attached adjacent respective adjustable mounts of said line segment end portions, each said bearing being attachable to a said line segment and having a connector assembly for attachment of said barbell, said bearings being movable to positions permitting said barbell to be attached to, and to extend between, the respective connector assemblies, wherein a starting position of the barbell is adjustable along the Smith guide columns by vertically adjusting the said rest positions of the respective line segment end portions and moving said bearings along said Smith guide columns.

28. An exercise apparatus according to claim 27, wherein each said connector assembly comprises a first mechanism for releasably holding said bearings at selected positions along said guide columns, for adjusting said starting position of the barbell.

29. An exercise apparatus according to claim 28, wherein each said connector assembly further comprises a second mechanism for fine adjustment of the height of the barbell.

30. An exercise resistance unit according to claim 27, wherein said adjustable exercise resistance structure comprises a framework supporting two independent exercise resistance units to which said line segments are respectively operatively connected.

31. An exercise resistance unit according to claim 30, wherein said framework mounts the two exercise resistance units for horizontal movement toward and away from each other.

32. An exercise resistance unit comprising:
a flexible line segment operably connected to a source of exercise resistance and having an end portion equipped with a connector adapted to be attached to a movable exercise member, said exercise resistance unit supporting said line segment such that said end portion is maintained in a vertically adjustable rest position, said line segment being extensible against a bias of said source of exercise resistance to allow the end portion to move away from its rest position, said line segment being retractable, by said bias, to return the end portion to its rest position;

wherein, the exercise resistance unit comprises an adjustable weight stack unit and said line is provided as part of a block and tackle assembly of the adjustable weight stack unit, each weight stack unit further comprising a vertically extending guide member, a

plurality of weight plates slidably mounted on said guide member, and a weight attachment member attached at its upper end to said block and tackle assembly, and being selectively engageable with said weight plates, for selectively lifting a desired number of the weight plates along the guide member, said vertically extending guide member mounting a mechanism for reducing momentum of the lifted weight plates at the end of a lifting stroke, to thereby increase a retraction rate of said line segment.

33. An exercise resistance unit according to claim 32, wherein said mechanism for reducing momentum of the lifted weight plates is mounted within a cavity formed in said vertically extending guide member.

34. An exercise resistance unit according to claim 33, wherein said adjustable weight stack comprises an engaging element which is removably extensible into said cavity for engaging with said mechanism as the adjustable weight stack is lifted.

35. An exercise resistance unit according to claim 32, wherein said mechanism for reducing momentum of the lifted weight plates comprises a compression spring mounted on said vertically extending guide member, which is engageable by said adjustable weight stack unit as the weight stack is lifted.

36. An exercise resistance unit according to claim 35, wherein said compression spring is mounted within a cavity formed in said vertically extending guide member.

37. An exercise resistance unit according to claim 36, wherein said adjustable weight stack comprises a key which is removably extensible into said cavity for engaging with said compression spring as the adjustable weight stack is lifted.

38. An exercise apparatus comprising:

a framework supporting two independent exercise resistance units and mounting the two exercise resistance units for movement toward and away from each other to respective positions wherein the units are operable by a user in conjunction with each other to perform exercises, and to respective storage positions; and

a treadmill movably connected to said framework for movement between a storage position and a use position, wherein each of the exercise resistance units is movably mounted on a rail of said framework, and in said storage position said treadmill extends generally vertically adjacent a said rail.

39. An exercise apparatus according to claim 38, wherein said treadmill extends generally vertically behind said rail in said storage position.

40. An exercise handle assembly comprising:
an elongate handle; and
a flexible strap connected to extend from opposite ends of said handle; and
a connector assembly for connecting said flexible strap to a pull-line of an exercise resistance unit;

wherein, when said strap is tensioned between said handle and said connector assembly, said handle remains generally freely rotatable through an arc residing generally in a plane of the tensioned strap, to thereby facilitate user forearm rotation.

41. An exercise handle assembly according to claim 40, wherein said handle is slidable lengthwise along said tensioned strap.

42. An exercise handle assembly according to claim 41, wherein said strap extends through and is slidable within a passageway provided in said handle.

43. An exercise handle assembly according to claim 42, said elongate handle comprising rollers mounted within said passageway for facilitating sliding movement of said handle on said strap.

44. An exercise handle assembly according to claim 43, said elongate handle further comprising an outer member rotatable on an inner member of said elongate handle about a longitudinal axis of the elongate handle, to thereby facilitate user wrist rotation.